User's Guide

9750HD IP

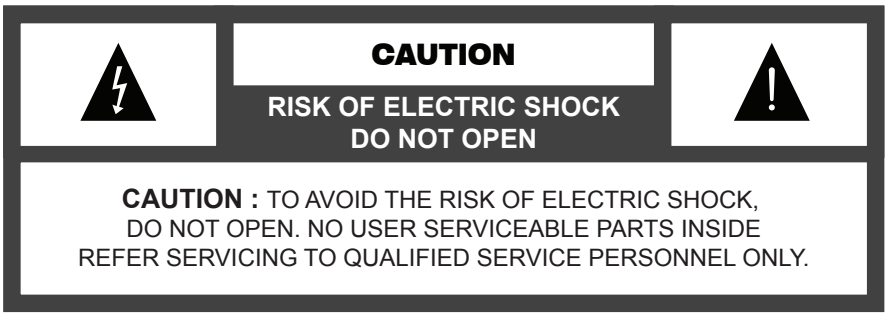
HDTV 1080i

DVB-S2 MPEG-4 / H.264
Satellite HDTV Receiver

Full HD Digital Satellite Receiver

Full HD Digital Satellite Receiver
HD Video Formats 1080i, 720p, 576p
Internet Connection Ethernet Port
USB 2.0 Ready
Dolby Digital 5.1 Audio Decoding
Smart Card Reader
HD Analog & HD Digital Output
Scart Video/ Audio Output
Max. 9999 TV & 4999 Radio Channels

Protek


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION : TO AVOID THE RISK OF ELECTRIC SHOCK,
DO NOT OPEN. NO USER SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL ONLY.

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and servicing instructions in the literature accompanying the appliance.

WARNING: THE APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.

WARNING: THE MAINS PLUG IS USED AS THE DISCONNECT DEVICE.
THE DISCONNECT DEVICE SHALL REMAIN READILY OPERABLE.

WARNING: TO ENSURE RELIABLE OPERATION AND PREVENT THE HD-RECEIVER FROM OVER HEATING, YOU MUST REMOVE THE PROTECTIVE PLASTIC FILM FROM THE HD-RECEIVER COVER.

CAUTION: TO PREVENT ELECTRIC SHOCK, ENSURE AC POWER PLUG IN FULLY INSERTION INTO THE POWER SOCKET.

CAUTION: CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE MANUFACTURER WILL VOID THE USER'S WARRANTY.

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Correct disposal of this product. This marking shown on the product or its literature indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other material resources. Household users should contact either the retailer where they purchased this product or their local government office for details of where and how they can dispose this product for environmentally safe recycling. Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

Important safeguards

These important safeguard messages will help ensure your enjoyment and proper use of the HD-Receiver and accessories. Please read them carefully before you begin to operate your HD-Receiver product.

1. Read and Retain this User's Guide
This User's Guide should be read before the HD-Receiver is operated and retained for future reference.

2. Use Correct Power
This HD-Receiver should be operated only from the type of power source indicated on the rear panel.

3. HD-Receiver Installation
Do not place HD-Receiver on an unstable trolley, stand, tripod, bracket, or table as it may fall, causing serious injury to a child or adult and damage the HD-Receiver.

4. Provide Antenna Ground
If an outside antenna or cable system is connected to the HD-Receiver, be sure the antenna or cable system is grounded to provide some protection against voltage surges and built-up static charges. An outside antenna system should not be located in the vicinity or overhead power lines, or other power circuits, where it can fall onto such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching or approaching such power lines or circuits as contact with them might be fatal. Installing an out door antenna can be hazardous and should be left to a professional antenna installer.

5. Provide Proper Ventilation
Opening slots in the HD-Receiver cabinet are provided for ventilation to ensure reliable HD-Receiver operation and to protect it from overheating. HD-Receiver should not be located in an enclosed / built-in installation such as a bookcase unless proper ventilation is provided.For sufficient ventilation, there must be at least 10cm free air space above, behind, top and on each side of the HD-Receiver.

6. Keep Away from Heat
Do not expose the HD-Receiver to direct sunlight. This product should be situated away from heat sources such as radiators, heat registers, stoves and other electronic products (including amplifiers) that produce heat.

7. Keep Away from Moisture
Do not use HD-Receiver near water or in wet areas such as near a bathtub, wash bowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool and the like.
Caution: Maintain electrical safety, power line operated equipment or accessories connected to this unit should bear the CE listing mark on the accessory itself and should not be modified to defeat the safety features. This will help avoid any potential hazard from electrical shock or fire.

8. Do Not Open
Do not attempt to service this HD-Receiver, as opening or removing HD-Receiver cover will expose you to dangerous voltages. To prevent of the risk of fire or electric shock, do not open the cabinet. There are no user serviceable parts inside the HD-Receiver. Refer servicing to qualified service personnel only.

9. Unplug before Cleaning
When cleaning the HD-Receiver, turn the HD-Receiver power off and unplug it from the wall AC outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning only.

10. Object and Liquid Entry
Never push objects of any kind through HD-Receiver openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock.Never spill liquid of any kind on the HD-Receiver. In case of liquid spillage, please contact your qualified service center.

11. For Additional Protection
For added protection during a lightning storm, or when left unattended for long periods of time, unplug the HD-Receiver from the AC wall outlet and disconnect the antenna and A/V cable system. This will prevent damage to the HD-Receiver from Lightning and power line surges.

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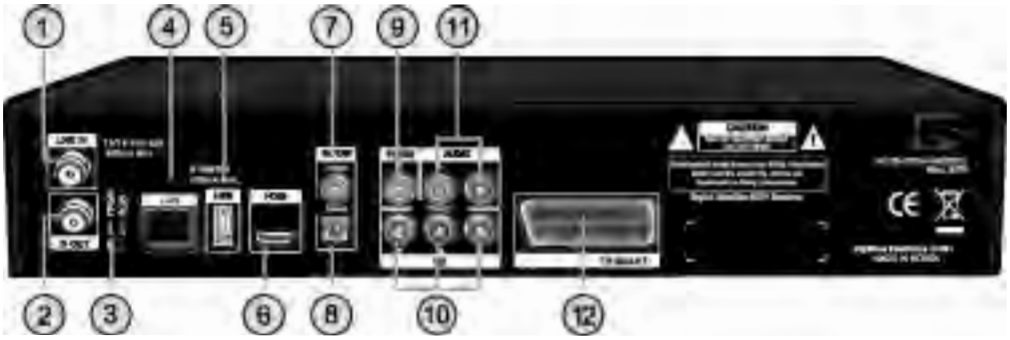
1. Overview of the equipment

This section summarize HD-Receiver Buttons, Remote Control and the Terminals.

1-1. Front Panel

① **STANDBY Button :**Switch the HD-Receiver between standby mode and operation mode.
② **VIDEO FORMAT Button :**Change HD Video Format among 1080i, 720p or 576p.
③ **MENU Button :**Show the Main Menu on the screen.
④ **OK Button :**Use to make selection in the Menu and show the Channel List on the screen.
⑤ **LEFT / RIGHT (V- / V+) :**These buttons increase/decrease the volume levels. They are also used to move left/right in menus and interactive screens.
⑥ **UP / DOWN (P+ / P-) :**These buttons switch to previous or next service. They are also used to move up/down in menus and interactive screens.
⑦ **Front Display :**Show the channel information, current time and the HD-Receiver status.
⑧ **Remote Sensor :**Infrared Remote Control sensor. To ensure reliable remote control operation, do not place any objects in front of the sensor.
⑨ **SMART CARD Slot :** One SMART CARD Slot

1-2. Rear Panel



① **LNB IN :**Connect the satellite antenna cable from the LNB.
② **IF OUT :**Connect to another digital satellite receiver.
③ **Output Select Switch :**Select Output to HD YPbPr or SCART RGB
④ **LAN :**Connect Internet Cable.
⑤ **USB :**Connect USB Device such as USB Memory for software upgrade or channel data exchange.
⑥ **HDMI :**Connect to the TV using HDMI Cable.
⑦ **S/PDIF Coaxial :**Output the S/PDIF Coaxial digital audio signal.
⑧ **S/PDIF Optical :**Output the S/PDIF Optical digital audio signal.
⑨ **VIDEO :**Provide SD composite video output to the TV or VCR equipments.
⑩ **Y/Pb/Pr :**Provide HD component video output to the TV or other equipments.
⑪ **AUDIO L/R :**Provide stereo audio output to the TV or VCR equipments.
⑫ **TV SCART :**SCART Output to the TV or other equipments.

1-3. Remote Control

Switch the HD-Receiver between standby mode and operation mode.

Switch the sound on / off.

0 ~ 9
Enter a TV / Radio program number. It also input the alphabet for program name search.

Switch between the current program and the previously viewed program.

Display the EPG (Electronic Program Guide) EPG

Adjust the audio volume level.

Exit the current menu system. EXIT

Activate the menu system on the screen. MENU

Select the audio track.

Show the teletext on the screen if applicable.

Show the sub title track if applicable.

It is working with additional functions such as select multi-feed program if applicable.

Change HD Video Format among 1080i, 720p or 576p.

Change the satellite on the program list.

Switch between Television services and Radio services.

Display favorite items on the program list.

INFO Display the detailed program information and Now / Next event.

P Change up / down the program.

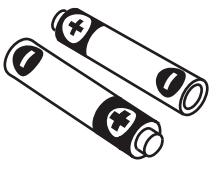
OK Navigate the cursor up, down, left, right in the menu system. Also UP/ DOWN buttons are work for program up / down.

Select an item in the menu system or shows the Channel List.

These color buttons are used with different functions in each menu.It will be guided by on-screen help display.

1-4. Accessories

Carefully remove the HD-Receiver from the carton. Check that the HD-Receiver has not been damaged. The following accessories are included.

This User's Guide	Two AAA(LR03) Batteries	Wireless Remote Control
		

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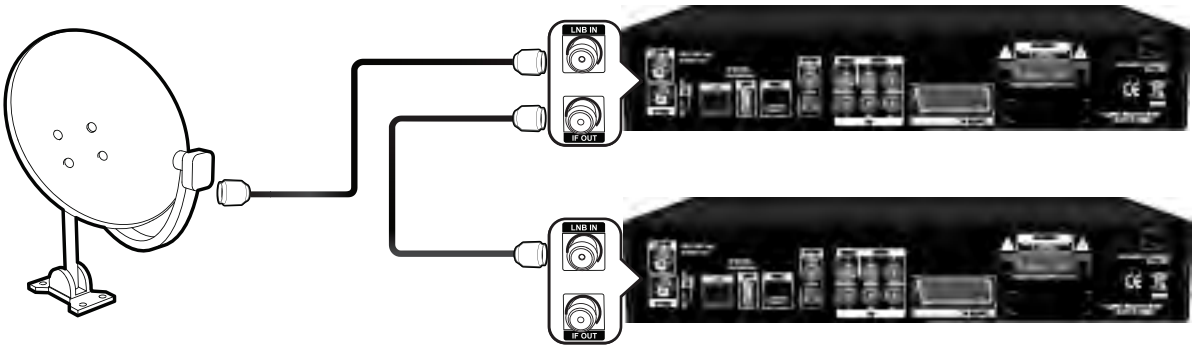
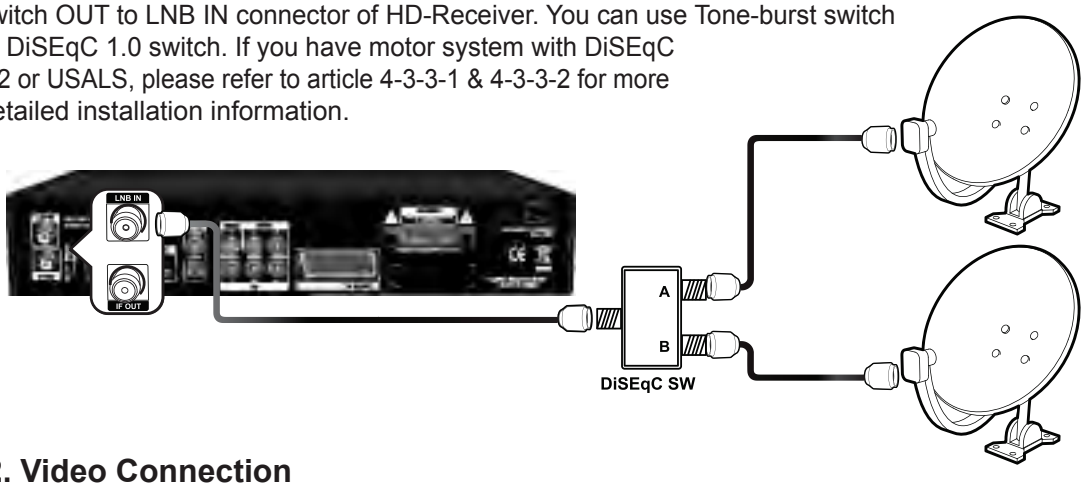
This chapter describes how to connect your HD-Receiver to the TV and other equipments. The HD-Receiver provides various connection methods for your TV, VCR and other equipments.

2-1. Antenna Connection

Connect satellite antenna cable to the LNB IN socket of the HD-Receiver.
If you have another Satellite Receiver, you may link it from the LOOP OUT connector.



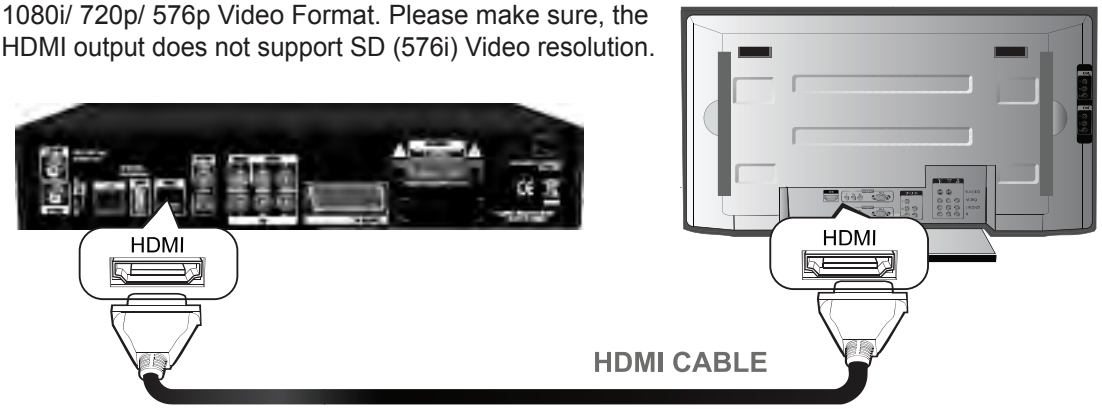
If you have two or more antenna dish, you can use DiSEqC switch. Connect DiSEqC switch OUT to LNB IN connector of HD-Receiver. You can use Tone-burst switch or DiSEqC 1.0 switch. If you have motor system with DiSEqC 1.2 or USALS, please refer to article 4-3-3-1 & 4-3-3-2 for more detailed installation information.



2-2. Video Connection

2-2-1. HDMI (High Definition Multimedia Interface) connection

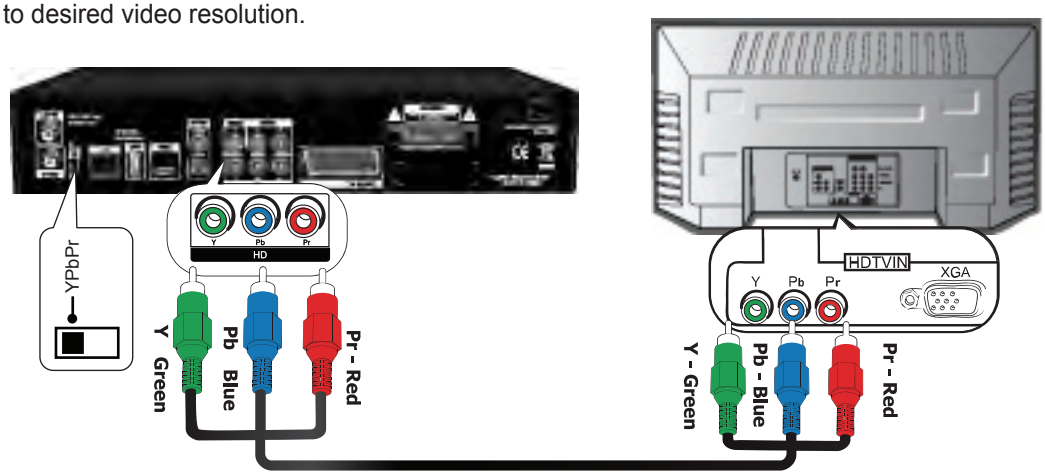
Connect HDMI Video cable to the HDMI output terminal on the rear of HD-Receiver. Connect the other end of HDMI Video cable to the HDMI Input terminal on the HDTV. The HDMI connection carries whole digital video & audio signal and there is no required additional audio connection. Set up the video format to desired resolution. This HDMI output supports 1080i/ 720p/ 576p Video Format. Please make sure, the HDMI output does not support SD (576i) Video resolution.



2-2-2. Connecting to a HDTV with HD YPbPr

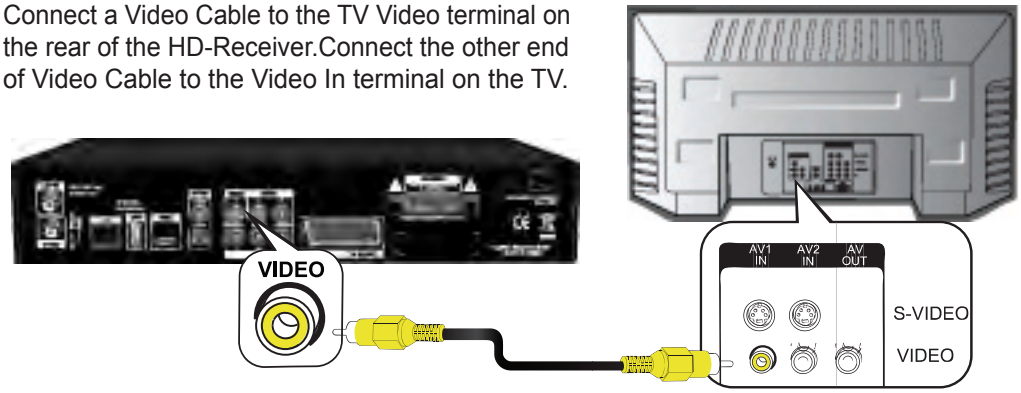
Attention: Please make sure that the Output Select Switch is in YPbPr position!

Connect YPbPr Video cable to the HD terminal on the rear of HD-Receiver. Connect the other end of YPbPr Video cable to the HD YPbPr input terminal on the HDTV. Usually, the Y is Green, Pb is Blue and Pr is Red color assigned. Set up the video format to desired video resolution.



2-2-3. Connecting to a Conventional TV with Composite Video

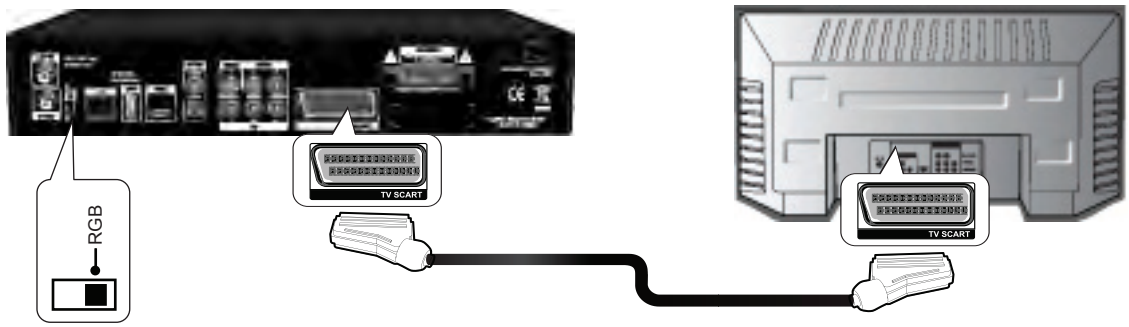
Connect a Video Cable to the TV Video terminal on the rear of the HD-Receiver.Connect the other end of Video Cable to the Video In terminal on the TV.



2-2-4. Connecting to a Conventional TV wtih SCART connection

Attention: Please make sure that the Output Select Switch is in RGB position!

Connect a SCART Cable to the TV SCART terminal on the rear of the HD-Receiver. Connect the other end of the SCART Cable to the SCART terminal on the TV. Please make sure, the Output Select Switch should be RGB position for correct SCART RGB operation.



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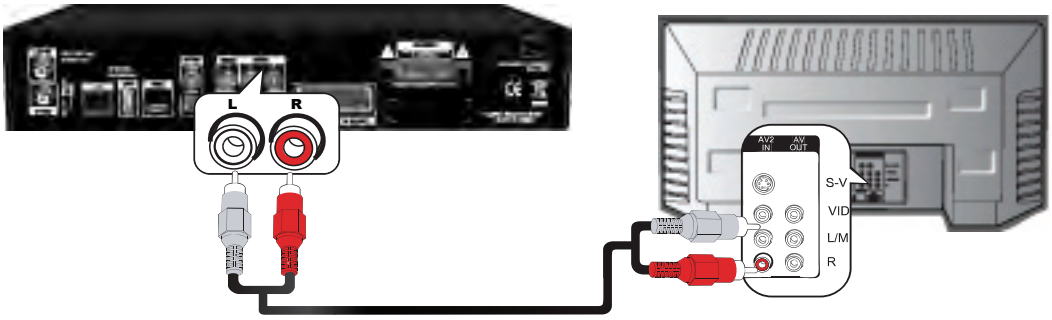
2-3. Audio Connection

This HD-Receiver can support three different methods for connecting audio signals. Each of the audio connections delivers the same audio sound. You can select desired audio connection by following the Audio Connection Diagrams below. Please make sure, if you are using HDMI connection, you do not need this Audio Connection. The HDMI connection is already included Digital Audio internally.

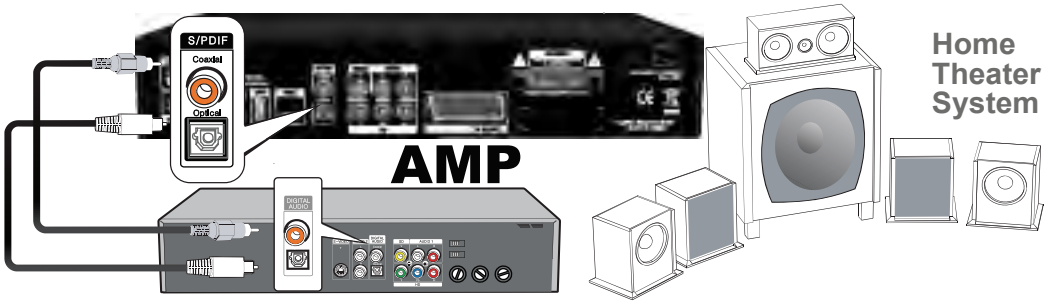
2-3-1. Stereo Audio Connection

Stereo audio connector deliver analog stereo sound or Dolby Digital Down mixed 2 Channel analog stereo sounds. Connect Audio Cable to Audio L/R terminal on the rear of the HD-Receiver. Connect the other end of the Audio Cable to the conventional TV Audio Input or Stereo Amplifier Audio Input.



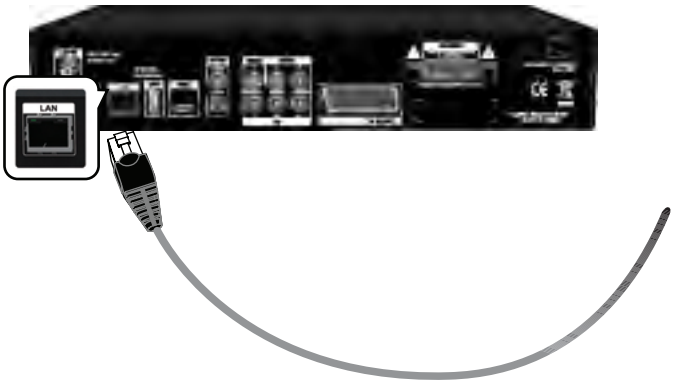
2-3-2. Digital Audio Connection

Optical Digital Audio and Coaxial Digital Audio deliver Dolby Digital 5.1 digital sound or PCM digital sound. If you have a Home Theater system with Digital Audio input, then you can use Digital Audio connection. For the Optical Audio connection, connect the Optical Audio Cable (Available in Local Store) to the Optical Audio terminal on the rear of the HD-Receiver. Connect the other end of the Optical Audio Cable to the Optical Audio Input terminal on the Home Theater System. For the Coaxial Audio connection, connect the RCA Cable to the Coaxial Audio terminal on the rear of the HD-Receiver. Connect the other end of the RCA Cable to the Coaxial Audio Input terminal on the Home Theater System.



2-4. LAN Connection

Connect here the network cable from your internet router to access to internet for firmware updates.



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Step-1. Check the contents in the gift box.

After opening the gift box, you should check up and find the following items.

- Digital HD-Receiver
- Remote Control
- User's Guide
- 2 Batteries (AAA or LR03 size)

Note :

If you find missing or broken part, then ask to supplier or contact to service center.

Step-2. Connect ANT Cable

Connect satellite antenna cable to LNB-IN of the HD-Receiver.
Connect another antenna cable between LOOP-OUT of other Receiver if applicable.

Step-3. Connecting the Video

Prepare TV or HDTV you want to connect.
There are several methods to connection of video. You should find correct connection method for your HDTV. Please refer to article 2.2 Video connection diagram.

Step-4. Connecting the Audio

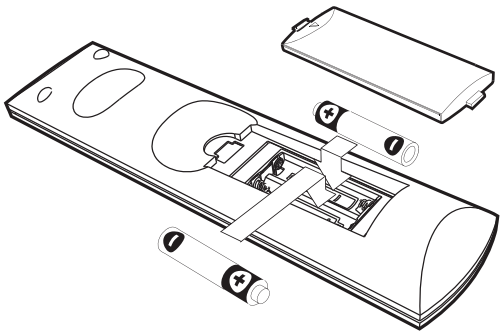
Prepare HDTV or Audio equipment you want to connect. If you are using HDMI connection, you do not need audio connection.There are two different connection methods for Audio connection. For general TV set with analog audio connection, it has AUDIO L/R. For digital audio connection, you should prepare Optical / Coaxial Audio cable for optical / Coaxial audio connection with Home Theater Equipment.

Step-5. Connecting the Power

Plug the Power Cord to wall AC outlet. The power source is AC 180-250V~, 50/60Hz. This unit is designed for continuous operation. Switching it off does not disconnect it from the AC outlet. To disconnect this HD-Receiver from AC outlet, you have to unplug the HD-Receiver.

Step-6. Install the Remote Control batteries

1) Open the battery compartment on the back of the Remote Control.
2) Install two AAA or LR03 size batteries as shown. The battery has polarity so when insert the batteries, make sure the `+` and `−` terminals are oriented correctly.
3) Replace the cover.



Note :

- ***Do not mix different types of batteries, or mix an old and a new battery.***
- ***Remove and replace weak batteries. Weak batteries can leak and damage your remote controller.***
- ***Dispose batteries properly, never throw them into a fire.***

Step-7. Video Format Setting

For the Video Format Setting, Press the button at the Remote Control for video format change. The default video format is 1080i.

Step-8. Check up the On Screen Display

For verify correct setting of Video Format, you should check up the OSD from HDTV's display screen. Turn on the HD-Receiver and HDTV. Press MENU button on the Remote Control, you should check up the OSD for verify A/V connection. If you cannot find any OSD in your TV display, please check up again the Video Format Setting and A/V connection.

Step-9. Select the satellite and Automatic Channel Search

Please select the satellite and perform the Automatic Channel Search. The HD-Receiver will automatic starting the available channels. For doing proper channel search, you should refer to article 4-3 Installation.

Step-10. Change Programs

You can change the program using P + or P − button in your Remote Control. Or you can direct select the program with pressing the number button in your Remote Control.

4. Using the MENU System

4-1. Preferences

In the Menu system you can adjust whole setting and function of HD-Receiver. If you press the MENU button, the menu screen will display. You can move up/down using ▲ or ▼ button in the Remote Control. Press OK or ◀ / ▶ button to select the items. Press MENU button again will go back to one step back. Press EXIT button will quit the menu system. If there is no Remote Control activity more than 60 sec, then all menu will automatically disappear for prevent unwanted operation.

4-1-1. Edit Channel List

You can see TV Channel Edit screen by pressing OK button at the Edit Channel List menu. In this menu, you can move, delete or sort each channels and categorized favorite groups. If you want move or delete the channel, select channel and press OK . Also you can perform the multiple channel move by using ⧉ button. Actual data saving will be done when exit channel edit menu. When you are using sort option please be careful because there is no way back to previous channel list order. So we recommend save current channel lists to USB memory stick before you sorting.
For more information for back up, please refer to article 4-5.
The P + / P − buttons will act page up / down in this menu respectively. Each channel can registered multiple favorite groups and quick find function will help you to find designated channels quickly.

4-1-2. Timers Setup

- **Wake Up Timer :** You can set the wakeup timer to turn on the HD-Receiver at desired time. The time format is Hour : Minute.
- **Disabled :** If you don't want to set wakeup time, you should set 'Disabled'.
- **Enabled:** You can set time whenever you want to wakeup by press ▲ or ▼ button and you can set channel type and wakeup channel.
- **Switch Off Timer :** You can set the switch off timer to turn off the HD-Receiver at desired time.
- **Channel Type :** You can select TV or Radio.
- **Wake Up Channel :** You can select wakeup channel among various channels.

Before switched off by Switch Off Timer, the receiver will notify warning message on the OSD. You can choose "YES" or "NO" whether switch off the HD-Receiver.

4-1-3. Preferred Languages

You can find two type of language selection items. One is for the EPG language, the other is for audio language. Each of them has two items respectively. First selected languages are always precedence of second languages. If there are no first selected audio or EPG language within current program then second languages are selected automatically.

4-1-4. OSD Language

This HD-Receiver supports multiple OSD languages. You can select the desired OSD language in which the menu would be displayed. Once you select the OSD language, the menu will immediate change to selected OSD language.

4-1-5. Preferred Audio Type

You can select audio type between Stereo Audio and Dolby Digital.
If current program services both of them, it will output selected audio track automatically.

4-1-6. InfoBar Time Out : You can set up the display duration of information bar. (3, 5, 10, 30, 60sec)

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4-2. System Setup

You should configure the system settings appropriately to your television set and other appliances.

4-2-1. 4:3 Channels Display As

If you have 16:9 wide-screen TV and current serviced program is 4:3 then you can select full screen mode or pillar box mode.

4-2-2. 16:9 Channels Display As

If you have conventional 4:3 TV and current serviced program is 16:9 then you can select full screen mode, letter box mode or pan & scan mode.

4-2-3. GMT Offset : You can set the Greenwich Mean Time (GMT) offset where you lived.

4-2-4. Summer Time : You can set summer time “Enable” or “Disable” condition if needed.

4-2-5. Restore Factory Defaults

You can make all data and configurations as factory default status except external HDD or USB device. After doing this, all stored data except external HDD or USB device will be erased and returned to factory default.

4-2-6. Network Setting

If your network system provides DHCP server then setting up the DHCP Enable, then all information will automatic received from DHCP server. If not you should enter the IP, Subnet mask, Gateway, DNS1 and DNS2 information manually. At lastly, set up the Network to Enable. You can check up the LAN cable connection with LED at the LAN connector. Green LED is LINK and Yellow LED is SPEED.

4-3. Installation

4-3-1. Switch Type

You can select LNB switch type which you are now using. If you choose DiSEqC item, each DiSEqC port assign to LNB by number. In other words, DiSEqC port 1 assign to LNB1 and DiSEqC port 2 assign LNB2 and so on.

4-3-2. LNB Setup

Next step, you should properly setting up LNB for receive the signal. You can select satellite and LNB Type depends on your antenna. Before doing this setting, you should have knowledge about your antenna system. Last offset item only available when you setting up LNB2. If you have one antenna with two LNBs then you can use this option. Offset means LNB2's relative angle value than LNB1's angle value. Supported values are 0˚, 3˚, 6˚.

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4-3-3. Motorized System

If you are using motor system, you can calibrate the antenna followed by below menus (DiSEqC 1.2 or USALS) depends on which motor system you have. You can dynamic check up the received signal status with quality and strength bar at the right side of OSD. Normally you don't need to adjust the advanced control menu if antenna is properly setting up, but sometimes antenna installer needs more complex commands. In this case you can simply enabling advanced control item, and you can access the 'reset', "set limit", "go to reference" commands and so on. If you use these commands, please be careful otherwise you will be confused for LNB setup.

4-3-3-1. DiSEqC 1.2 Setting

Step-1. Select satellite and transponder as you wish to setup.
Step-2. Move to motor control item and select "Go to" option then press OK button. The antenna will move to stored position which receiver has.
Step-3. If the signal strength and quality is not good, you can adjust antenna position by movement item.
Step-4. If you can get good signal, move again motor control item then press ◀ or ▶ button to choose store position.
Step-5. At lastly, press OK button then the current position data will be overwritten on the previous stored data.

4-3-3-2. USALS Setting

Step-1. Select satellite and transponder as you wish to setup.
Step-2. Enter the longitude and latitude value properly as you are positioned.
Step-3. Move to motor control item and select "Go to" option then press OK button.
The antenna will move to angular position based on real satellite angle.
Step-4. If the signal status is not good, you should adjust antenna position by movement item.
Step-5. There is no "store position" item in the USALS menu because all mechanism operates by actual satellite position (angle). So if you can't get a good signal by doing Step-4, you must calibrate your antenna position by manually.

Note :
For advanced control command, you'd better refer to STAB's motor reference manual. Since it is intended for installer or expert users so we recommend that normal user should not handle it by himself.

4-3-4. Channel Scan

After all antenna setting was properly done, you can start channel scanning for add up new channels. Before you starting search, also you can choose NIT search, channel type, access type options as you wish. There are three types of search methods which is Manual, Auto and Multi. Usually Multiple search will be done one by one so it will take long scanning time than Manual or Auto search.

- **Manual :** One transponder search in one Satellite
- **Auto :** All transponder search in one Satellite
- **Multi :** All transponder search in multiple Satellites

If you want add new transponder then enter the frequency, polar and symbol-rate value in the transponder item. If there is new channel available in this transponder then it will be added transponder list, if not it will be ignored and remove from the list. Please make sure, this operation is only work under the manual channel search.

4-3-5. Edit Satellite

This HD-Receiver supports 104 default satellite lists. Also user can add, remove and modify satellites. If you are using USALS system, you should carefully enter the real satellite position value. Otherwise you can't get signal from newly added satellite.

4-4. SmartCard

Some broadcaster broadcast scrambled service and it required paid subscription for watching TV. The scrambled services can only be watched with subscription card. This HD-Receiver has One Smart card slot for insert the Subscription Card. To watch a pay service you should take the following steps;

Step-1. Check if subscription card of your provider is supported by this HD-Receiver

Step-2. Purchase a subscription card for the pay service which you want to watch.

Step-3. Insert the subscription card into the Smart card slot

Step-4. Please make sure the card's contact should be up side down

4-5. System Information

In this menu, you can check up the model name, current software/ hardware version and upgrade latest firmware through USB memory stick. Also you can import or export channel list. For the firmware upgrade, please refer to the Section 6. Firmware Upgrade.

- **Load Channel List from USB :** Import channel lists from USB memory stick which is previous saved channel lists.
- **Save Channel List to USB :** Export current channel lists to USB memory stick.

When saving channel list to USB, the file name is automatic created by current date and file extension will be '.cdb'.

4-6. USB Menu

By pushing USB key on remote control you can access Contents Browser, Connect or Disconnect and Format your connected USB device.

4-6-1. Contents Browser. You can browse the content of the connected USB device.

4-6-2. Connect Drive

In normal case, user uses rarely this menu item when proper USB DISK connected to STB since STB will find first proper partition and connect automatically. However, after change or format the USB DISK, user should connect USB DISK by manually. In this situation user can select partition if there are several partitions available.

4-6-3. Disconnect Drive

The STB communicate with USB DISK after proper USB connection made even though you do not perform playing or recording. Thus if you disconnect the USB forcibly, it may cause USB DISK corruption. For preventing it, you should do disconnect drive process before you plug out USB DISK from STB. When you switch off the STB power, disconnect operation will process automatically. At that time, you don't need disconnect operation manually.

4-6-4. Drive Format

You can format the USB DISK when connected USB DISK have other file system than FAT32 or simply erase all the USB DISK contents by one time. This menu item will deactivate when the USB DISK not properly connected or USB DISK is in recording / playing process.

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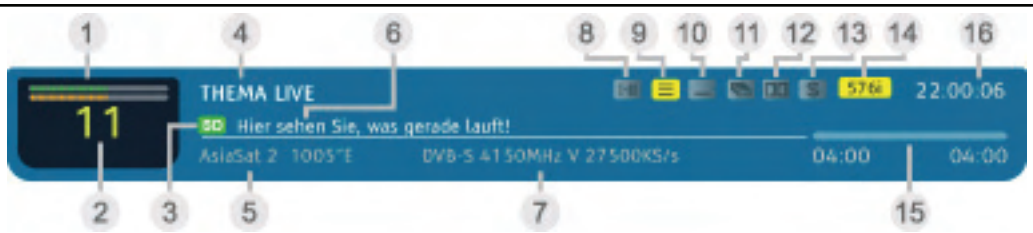
5. Direct Buttons of the Remote Control

You can use following Remote Control Buttons for searched programs

5-1. INFO (Information)

If you press INFO button, then detailed information of current program will be shows on bottom of the display. While displaying banner, if you press INFO button again then current program's synopsis(NOW) will be displayed at top of the banner. You can move NOW and NEXT synopsis by pressing ◄ and ► button at this moment.

Information Display Contents

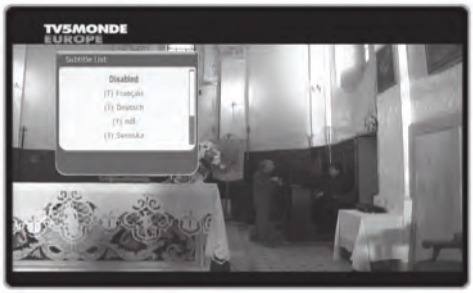


(1) Signal Level & Quality	(7) Transponder Information	(13) Scrambled Service
(2) Program Number	(8) Audio Track	(14) Source Video Resolution
(3) Program type	(9) Teletext	(15) Program Running Time
(4) Program Name	(10) Sub Title	(16) Current Time
(5) Satellite Name	(11) Multi-Feed Program	
(6) Current synopsis	(12) Dolby Digital	

5-2. FAV (Favorite)

To display favorite lists, press button. You can see a screen left side figure. In this list, you can select favorite group. For grouping of your own favorite channels, please refer to article 4-1-1.
Once you choose one of them, it always kept on the memory unless you change another one. Current selected favorite group will be displayed on the bottom side of number in info banner.

5-3. SUB TITLE



Some programs are provided with subtitle tracks in one or more languages, press button will select a subtitle track. There are two type of subtitle displayed at this window. Without any icon means teletext subtitle and DVB means DVB subtitle. Once you choose one of them, it will be saved on the memory so next time if you tune to this program again then last selected subtitle shows automatically until receiver switched off.

5-4. EPG (Electronic Program Guide)

Press the EPG button then it shows the short summary of the current and scheduled programs if EPG data is available on each service. For more detailed information about selected program, press the INFO button.
The (red) button always cursor move to first event wherever current cursor positioned. And the (green) button will move to day tab. So you can quickly navigating events.

5-5. TELETEXT

On some services, such information as weather reports, news or stock quotations is provided by means of teletext. If current program provides teletext service, it will display on the information display. For activate teletext service, press button. Press a number button to viewing desired teletext page. Also you can use four teletext buttons (red, green, yellow, blue) for more easy to use of teletext services. If you want to exit from teletext service, you just press EXIT button or press button again.

5-6. RECALL : You can change to previous program by pressing button.

5-7. OPTION (MULTI-FEED)

Press button works for option. Mainly it used activate of Multi-Feed function which is program watching mode if the program supported. In the other case, it assigned other functions. At that time it will be explained at the bottom of the screen.

5-8. SAT

If you press button, you can see the satellite list what you installed. If you choose one of them, that satellite list will memorized and shown unless you change another one.

5-9. MUTE : If you press button,You can switch the sound ON/OFF.

5-10. VIDEO FORMAT

This receiver supports various video output resolutions such as 1080i, 720p, 576p for YPbPr and HDMI output. If you press once, the display shows current resolution. Press again within 3 sec, resolution will be change following sequence. 1080i > 720p > 576p. Also You can change video output resolutions at front key. Press up & down key simaltaneous, then it activate video resolution change menu. Press up or down within 3sec, video resolution will be change.

5-11. I-II (Audio Track)

Press button then you can select one of the audio tracks from audio list dialog. The default value is Auto which means audio track will follow selected preferred audio language in preference menu. If you choose another track at this dialog, it always precedes selected preferred audio language. Please keep in mind all of the audio tracks for each channel will stored to the internal memory until receiver swiched off.

5-12. OK (Channel List)

You can call the Channel List window by pressing OK button. You can change filter conditions dynamically for all channels on the list. These conditions are FAV, Satellite, Provider, number or Alphabet order. If you change one of the filter condition, it will kept current status unless you change to another one. Please make sure if you modify anything on the channel edit menu, the channel list filter condition always set to All. Whenever you can find current filter condition on the title.

5-13. TV / RADIO Press button then you can switch TV / RADIO mode. It will be automatically changed wallpaper in radio mode to prevent display damage.

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6. Firmware Upgrade

The HD-Receiver has a specific firmware which is stable and convenient use. However, for improvement of the product functionality, new firmware may be released. You can get the latest firmware from your Protek Distributor or directly at www.protek.tv

6-1. Checking current firmware version

You can check up the current firmware information of your HD-Receiver before downloading latest firmware. In the main menu, select System Information then you can check the current version number.

6-2. Upgrade from the USB memory device

You can upgrade the HD-Receiver firmware to latest firmware. It should identical match the system identification between HD-Receiver and latest firmware. If not you will fail in firmware upgrade. Please follow below step for upgrade.

Step-1. Prepare any size of USB memory stick.
Step-2. Download latest upgrade firmware from the www.protek.tv
Step-3. Copy this file to your USB memory stick.
Step-4. Insert the USB memory stick to HD-Receiver USB port.
Step-5. In the main menu, select System Information > Firmware Upgrade menu.
Step-6. Select a file and choose "YES" item to starting upgrade.
Step-7. Wait a minute until upgrade finished. Information OSD will appear.
Step-8. When finished the upgrade, the HD-Receiver will be restarted automatically.

Note :

Your USB memory must be formatted in the FAT 32 file system. Otherwise, the digital receiver cannot recognize your USB memory. In addition, the digital receiver can only recognize files and directories which are named with only alphabetic, numeric and underscore letters. If there is a file or folder named with other letters, the digital receiver cannot recognize not only it but also its subsequent files and folders.

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7. Trouble Shooting Guide

Your HD-Receiver is designed to give you trouble-free performance for many years. If you have a problem with your HD-Receiver, try the solutions listed below.

Problem	Possible Causes	What to do
The front display does not light up.	Power cable is not connected.	Checkup the power cable which is plugged in to the AC wall mounted socket.
No sound or picture, but the clock display in the front panel.	The HD-Receiver is not powered on.	Press the power button on the front panel or remote controller to power ON status.
Pixelated picture.	Signal too weak or No antenna connected.	Check the antenna or antenna connection.
No picture, but sound is OK.	Your HDTV does not support selected video resolution.	Check the video format. Refer to article 5-11. Video Format
The sound is OK, but the picture is blank. The picture is OK, but the sound is blank.	Audio or video connection is not good.	Check up the audio/video cable or connection.
The remote control is not working.	Battery exhausted. Remote control is incorrectly aimed. Blocked the HD-Receiver front panel.	Change the batteries. Aim the remote control at HD-Receiver. check that nothing blocks the front panel.
Display “No or Bad Signal” message.	Antenna connection not stable. Antenna setting wrong.	Check the antenna cable.Check the antenna setting menu again.
Cannot descramble the CA channel.	Card not properly inserted. Subscription period expired.	Check the insertion status for Card. Check the subscription status.

8. SPECIFICATIONS

1) Tuner

ITEM	SPECIFICATION
Input Connector	1 x F type 75 Ohm.
Output Connector	1 x F type 75 Ohm, Loop through
Frequency Range	950MHz to 2150MHz
Input Impedance	75 Ohm, Nominal
Signal Level	-25 dBm to -65 dBm
LNB Power & Polarization	Vertical +13.0V~+14.0V
	Horizontal +18.0V~+19.0V
	Current: 400mA Max.
22KHz Tone	Frequency 22KHz +/- 2KHz
	Amplitude 0.6Vpp +/- 0.2Vpp
Demodulation	QPSK, 8PSK
Input Symbol Rate	QPSK/LDPC/BCK : 20Msps to 30Msps
	8PSK/LDPC/BCH : 1Msps to 31Msps
	DVB-S QPSK : 2Msps to 45Msps
Code Rate	QPSK/LDPC/BCK: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6 8/9, 9/10
	8PSK/LDPC/BCH: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10
	DVB-S QPSK: 1/2, 2/3, 3/4, 5/6, 7/8

2) MPEG Transport Stream A/V Decoding

Transport Stream	MPEG-2 ISO/IEC 13818
	Transport Stream Specification
Profile & Level	MPEG-2 MP@HL, MPEG-2 MP@ML,
	MPEG4-p10/H.264 Level4
Video Resolution	720x576i, 1920x1080i, 1280x720p, 720x576p
Audio Decoding	MPEG-1 Layer 1/2, MPEG-2 Layer 2, Dolby Digital(AC-3)
Audio Mode	Stereo, Dual Channel, Joint Stereo, Mono
Sampling Rate	32, 44.1 and 48KHz
Audio Frequency Range	20Hz~20KHz, less than +/- 2dB flatness,less than 2Vrms

3) Output Terminal

SD CVBS Output	1 x RCA
HD YPbPr Output	1 x YPbPr (3 RCA)
HDMI Output	1 x HDMI
Digital Audio Output	1 x S/PDIF Optical, 1 x SPDIF(Coaxial)
Stereo Audio Output	1 x Stereo Audio RCA (L/R)
SCART	1 x TV SCART
Data Interface	1 x USB 2.0 HOST Type A
LAN	1 x RJ45 LAN Port
Smart Card	1 x Smart Card slot

4) Power Supply

Input Voltage	AC180~250V~, 50/60Hz
Type	SMPS
Standby Power Consumption	Less than 2W.
Power Consumption	16W Typical. 30W Max.
Protection	Separate Internal Slow Blow Fuse and Chassis Ground.The input should have Lightning or Electronic Shock Protection.

5) Environment

Operating Temp	0℃ ~ +50℃
Storage Temp	-20℃ ~ +65℃
Operating Humidity	10%~85% RH non condensing
Storage Humidity	5%~90% RH non condensing

6) Memory

Flash Memory	64Mbit Flash × 1
SDRAM (System)	512Mbit DDR SDRAM × 2
SDRAM (Video)	256Mbit DDR SDRAM × 2

7) Physical Specification

Size (WxHxD)	340mmx70mmx270mm
Weight (Net)	About 2.1Kg

Note : ***Specifications are subject to change without notice***

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